|  |  |
| --- | --- |
| Project | **Standard for Actuator Interface for Cyber and Physical World**<https://sagroups.ieee.org/2888/ **>** |
| Title | **Data Formats for Olfactory Related Actuator** |
| DCN | **2888-21-0024-00-0002** |
| Date Submitted | **June 15 2021** |
| Source(s) | Yegi Lee zxcasd312@naver.com (Konkuk University)Shin Kim new.xin22@gmail.com (Konkuk University)Eunji Choi c950707@gmail.com (Konkuk University)Kyoungro Yoon yoonk@konkuk.ac.kr (Konkuk University) |
| Re: |  |
| Abstract | This contribution proposes syntaxes, semantics, and examples for representing olfactory related actuator information in the physical world in a standardized data format. |
| Purpose | To start discussion on purpose of the standard |
| Notice | This document has been prepared to assist the IEEE 2888 Working Group. It is offered as a basis for discussion and is not binding on the contributing individual(s) or organization(s). The material in this document is subject to change in form and content after further study. The contributor(s) reserve(s) the right to add, amend or withdraw material contained herein. |
| Release | The contributor grants a free, irrevocable license to the IEEE to incorporate material contained in this contribution, and any modifications thereof, in the creation of an IEEE Standards publication; to copyright in the IEEE’s name any IEEE Standards publication even though it may include portions of this contribution; and at the IEEE’s sole discretion to permit others to reproduce in whole or in part the resulting IEEE Standards publication. The contributor also acknowledges and accepts that IEEE 2888 may make this contribution public. |
| Patent Policy | The contributor is familiar with IEEE patent policy, as stated in [Section 6 of the IEEE-SA Standards Board bylaws](http://standards.ieee.org/guides/opman/sect6.html#6.3) <[http://standards.ieee.org/guides/bylaws/sect6-7.html#6](http://127.0.0.1:4664/cache?event_id=757737&schema_id=1&s=5X0vID10lu_E6yrIkWkNd4Wz2H8&q=hancock)> and in *Understanding Patent Issues During IEEE Standards Development* <http://standards.ieee.org/board/pat/faq.pdf> |

# Introduction

This contribution proposes actuator command types which can generate olfactory related effect. It contains syntaxes, semantics, and examples for representing olfactory related actuator information in the physical world in a standardized data format.

2 Data formats for interfacing actuator command

* 1. Scent actuator
		1. General

This sub-clause specifies an actuator command type which can generate a scent effect.

* + 1. Syntax

|  |
| --- |
| "scentCommandData": { "type": "object", "properties": { "scent": { "$ref": "#/definitions/scentType" }, "intensity": { "type": "integer", "minimum": 0, "maximum": 100 } }, "additionalProperties": false, "required": ["scent"] }, |

* + 1. Semantics

Semantics of the scentCommandData:

| *Name* | *Definition* |
| --- | --- |
| scentCommandData | Provide a structure for describing a command for a scent actuator. |
| scent | Describes the scent that specific scent actuator can generate. The scent unit of the command value describes as a reference to a term that shall be using the scentType. |
| intensity | Describes the intensity that the scent actuator shall emit in percentage(%) with respect to the maximum intensity that the specific actuator can generate. |

* + 1. Examples

This example shows the description of a actuator command of scent effect with the following semantics. This scent actuator is commanded to perform the intensity 5% of the maximum intensity with the scent “rose”.

|  |
| --- |
| {"commandInfoBaseAttributes": {},"scentCommandData": { "scent": "rose", "intensity": 5 }} |